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Claims

[c1] 1. A method for extra-corporeal collection of a blood component from a donor/patient, comprising:
using a donor/patient characteristic to determine a blood component to be collected;
generating a list having at least one blood component collection option;
using the list in selecting a blood component to be collected;
removing blood from a donor/patient;
flowing the blood into a centrifugal blood processing vessel;
separating the blood into separated blood components within said centrifugal blood processing vessel, said separated blood components including at least separated plasma and separated red blood cells;
collecting at least a portion of at least one of said blood components from said centrifugal blood processing vessel in a blood component collection reservoir separate from said centrifugal blood processing vessel;
returning at least a portion of the uncollected separated blood components from said blood processing vessel to said donor/patient.

[c2] 2. A method for extra-corporeal collection of a blood component from a donor/patient according to claim 1 in which said method uses an extra-corporeal blood processing system having an extra-corporeal blood processing machine and a plurality of tubing and bag set options available for use with said machine, said method further comprising loading an appropriate tubing and bag set on said machine.

[c3] 3. A method as recited in Claim 2, wherein said plasma collection step is performed at least partially after said red blood cell collection step.

[c4] 4. A method as recited in Claim 2, wherein said red blood cell collection step is performed at least partially after said plasma collection step.

[c5] 5. A method according to Claim 1, wherein said method uses an extra-corporeal blood processing system having an extra-corporeal blood processing machine, whereby said machine generates said list of at least one component collection option.

[c6] 6. A method according to claim 5 wherein said donor/patient characteristic is input into said machine, and said machine uses said donor/patient characteristic to generate said list.

[c7] 7. A method according to claim 5 wherein said donor/patient characteristic includes the height and weight of the donor/patient.

[c8] 8. A method according to claim 5 wherein said donor/patient characteristic includes the hematocrit of the donor/patient.

[c9] 9. A method according to claim 8 comprising establishing a pre-determined packing factor for the separated red blood cells within said blood processing vessel.

[c10] 10. A method according to claim 9 wherein said packing factor is between 11 and 21.

[c11] 11. A method according to Claim 9 comprising establishing a packing factor of at least about 13 for the separated red blood cells within said blood processing vessel.

[c12] 12. A method according to Claim 11 in which the packing factor is about 16.

[c13] 13. A method according to claim 9, which further includes establishing an AC ration in the blood processing vessel of between 6 and about 16.

[c14] 14. A method according to claim 9 in which the packing

factor is about 16 during the contemporaneous collection of separated plasma and separated red blood cells and the packing factor is then reduced to about 13 during the at least partial step of collecting separated red blood cells after the performance of the collection of separated plasma.

[c15] 15. A method according to claim 5 wherein said donor/patient characteristic includes the platelet count of the donor/patient.

[c16] 16. A method according to claim 1 wherein said list of blood component options includes at least one option selected from the group consisting essentially of platelets, red blood cells, and plasma.

[c17] 17. A method according to claim 1 wherein said list of blood component options includes at least one option selected from the group consisting essentially of single platelets, double platelets, triple platelets, red blood cells, double red blood cells, and plasma.

[c18] 18. A method according to claim 1 wherein said list of blood component options includes at least two options as a combination of collectible products selected from the group consisting essentially of single platelets, double platelets, triple platelets, red blood cells, double red

blood cells, and plasma.

[c19] 19. A method according to Claim 1 which further includes a step of adding anticoagulant to the blood flowing into the centrifugal blood processing vessel; and delivering a replacement fluid including flowing replacement fluid at a rate equal to the total flow rate of collected blood components minus the flow rate of anticoagulant multiplied by the desired fluid balance percentage resulting in the donor/patient.

[c20] 20. A method according to Claim 19 in which a replacement fluid is flowed from a source first to an intermediate reservoir prior to ultimate delivery to the donor/patient.

[c21] 21. A method as recited in Claim 1, further comprising a set-up step prior to said collecting step, said set-up step including:
flowing the separated blood components out of said blood processing vessel, wherein substantially all of said separated blood components flowing out of the blood processing vessel are accumulated for re-infusion to a donor/patient during the set-up step.

[c22] 22. A method as recited in Claim 21, said set-up step including:

maintaining a predetermined anticoagulant infusion rate to said donor/patient.

[c23] 23. A method as recited in Claim 21, said set-up step including:
removing the separated red blood cells and a portion of the separated plasma together through the RBC outlet from said blood processing vessel to establish the interface between the separated RBCs and the separated plasma at the RBC outlet in the first stage of the blood processing vessel.

[c24] 24. A method according to claim 1 including:
recirculating a portion of the uncollected separated blood components into said blood processing vessel; and
returning substantially all of the uncollected separated blood components to said donor/patient.

[c25] 25. A system for extra-corporeal collection of a blood component from a donor/patient, comprising:
an extra-corporeal blood processing machine, said machine being adapted to use a donor/patient characteristic to determine a blood component to be collected and to generate a list having at least one blood component collection option;
said machine being adapted to receive an input selection

of a blood component to be collected;
said machine being adapted to receive blood removed from a donor/patient;
said machine having a centrifugal blood processing vessel to receive the blood and separate the blood into separated blood components within said centrifugal blood processing vessel, said separated blood components including at least separated plasma and separated red blood cells;
said machine being adapted to collect at least a portion of at least one of said blood components from said centrifugal blood processing vessel in a blood component collection reservoir separate from said centrifugal blood processing vessel;
said machine being adapted to return at least a portion of the uncollected separated blood components from said blood processing vessel to said donor/patient.

[c26] 26. A system for extra-corporeal collection of a blood component from a donor/patient according to claim 25 in which said extra-corporeal blood processing machine is adapted to use a plurality of tubing and bag set options.

[c27] 27. A system as recited in claim 25, whereby said machine generates said list of at least one component collection option.

[c28] 28. A system according to claim 27 wherein said donor/patient characteristic is input into said machine, and said machine uses said donor/patient characteristic to generate said list.

[c29] 29. A system according to claim 27 wherein said donor/patient characteristic includes the height and weight of the donor/patient.

[c30] 30. A system according to claim 27 wherein said donor/patient characteristic includes the hematocrit of the donor/patient.

[c31] 31. A system according to claim 27 wherein said donor/patient characteristic includes the platelet count of the donor/patient.

[c32] 32. A system according to claim 25 wherein said list of blood component options includes at least one option selected from the group consisting essentially of platelets, red blood cells, and plasma.

[c33] 33. A system according to claim 25 wherein said list of blood component options includes at least one option selected from the group consisting essentially of single platelets, double platelets, triple platelets, red blood cells, double red blood cells, and plasma.

[c34] 34. A system according to claim 25 wherein said list of blood component options includes at least two options as a combination of collectible products selected from the group consisting essentially of single platelets, double platelets, triple platelets, red blood cells, double red blood cells, and plasma.

[c35] 35. A system as recited in Claim 25, wherein said machine is adapted to deliver a replacement fluid to said donor/patient.

[c36] 36. A method as recited in Claim 35 wherein said machine is adapted to deliver said replacement fluid to said donor/patient in a substantially continuous fashion.